

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Claim 1 (canceled)

Claim 2 (previously presented): A method according to claim 30, wherein the existence of corrupted or otherwise incorrect data in a particular sector on the optical disc signifies that that disc is not original whereby its use may be prevented.

Claim 3 (previously presented): A method according to claim 30, wherein successful operation of the copy protected disc requires that the disc be present in the drive and that a correct authenticating signature be readable therefrom.

Claim 4 (canceled)

Claim 5 (previously presented): A method according to claim 30, wherein the provided data patterns additionally to the rapid rate of change ensure that the DSV has an absolute value significantly greater than usual.

Claim 6 (previously presented): A method according to claim 30, wherein the provided data patterns are repeated patterns of values.

Claim 7 (previously presented): A method according to claim 30, wherein the size of the provided data patterns is predetermined.

Claim 8 (canceled)

Claim 9 (previously presented): A method according to claim 30, wherein the provided data patterns are arranged to produce a DSV which

has a substantial low frequency component lower than that of the lowest signal frequency that does not cause DSV problems.

Claim 10 (previously presented): A method according to claim 30, wherein the authenticating signature is also made up of sectors containing only zeros which are provided both before and after sectors containing the data patterns.

Claim 11 (canceled)

Claim 12 (previously presented): A copy protected optical disc according to claim 31, wherein the provided data patterns have a size and/or a nature which ensures that they cannot be accurately written by a writer of recordable discs.

Claim 13 (canceled)

Claim 14 (previously presented): A copy protected optical disc according to claim 31, wherein the provided data patterns additionally to the rapid rate of change ensure that the DSV has an absolute value significantly greater than usual.

Claim 15 (previously presented): A copy protected optical disc according to claim 31, wherein the provided data patterns are repeated patterns of values.

Claim 16 (previously presented): A copy protected optical disc according to claim 31, wherein the size of the provided data patterns is predetermined.

Claim 17 (canceled)

Claim 18 (previously presented): A copy protected optical disc according to claim 31, wherein the provided data patterns are arranged to produce a DSV which has a substantial low frequency component lower than that of the lowest signal frequency that does not cause DSV problems.

Claim 19 (previously presented): A copy protected optical disc according to claim 31, wherein the data patterns are put in a plurality of sectors on the optical disc.

Claim 20-29 (canceled)

Claim 30 (previously presented): A method of copy protecting an optical disc comprising:

providing data patterns;

subjecting the data patterns to an exclusive Or (XOR) scrambling algorithm;

providing the data patterns on the disc arranged such that the data patterns cannot be accurately copied onto another disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns have a DSV (digital sum value) which has a rapid rate of change over time wherein the transition in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values or the ability of disc drives to maintain optimal head positioning is compromised;

the data patterns making up an authenticating signature; and

wherein the data patterns of the authenticating signature and other data are applied to the optical disc in a mastering process using a

laser beam recorder controlled by an encoder which applies the exclusive Or scrambling algorithm to the scrambled data patterns and the other data and which has a larger ability to look ahead than the writer and thus can be controlled to accurately write the authenticating signature to the disc.

Claim 31 (currently amended): ~~A copy-protected~~ An optical disc carrying a plurality of pits and lands defined in its surface, each defining a state transition and thereby defining encoded data, the encoded data comprising:

~~data patterns provided on the disc,~~ the data patterns having been subjected to an exclusive Or (XOR) scrambling algorithm prior to being encoded and arranged such that the data patterns cannot be accurately copied onto another disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns have a DSV (digital sum value) which has a rapid rate of change over time wherein the transitions in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values or the ability of disc drives to maintain optimal head positioning is compromised; and

the data patterns making up an authenticating signature;

wherein the data patterns of the authenticating signature and other data have been applied to the optical disc in a mastering process using a laser beam recorder controlled by an encoder which applies the exclusive Or scrambling algorithm to the scrambled data patterns and the other data and which has a larger ability to look ahead than the writer and thus can be controlled to accurately write the authenticating signature to the disc.

Claim 32 (canceled)

Claim 33 (new): An optical disc copy protected according to the method of
Claim 30.

Claim 34 (new): A method according to Claim 30, wherein the provided data
patterns have a size and/or a nature which ensures that they cannot
be accurately written by a writer of recordable discs.

Claim 35 (new): A method according to Claim 30, wherein the data patterns
are put in a plurality of sectors on the optical disc.